PATENT

RF 3/9/05 128.833US1

In the claims:

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Canceled)
9. (Canceled)

10. (Currently amended) A system for oxygen delignification of pulp having a lignocellulose-containing material having a mean concentration of 8-18% pulp consistency, the oxygen delignification taking place in at least two stages and where the system comprises:

a first pump arranged to pump the pulp to a first mixer for admixing, in the first mixer, chemicals that are required for an oxygen delignification process, the first mixer having an inlet and an outlet defined therein, the inlet of the first mixer being in fluid communication with ~~and disposed immediately downstream of~~ an outlet of the first pump;

a first delignification zone arranged to receive pulp from the first mixer, the first delignification zone having an inlet and an outlet defined therein, the inlet of the delignification zone being in fluid communication with ~~and disposed immediately downstream~~ the outlet of the first mixer;

a second mixer having an inlet and an outlet defined therein, the inlet of the second mixer being in fluid communication with ~~and disposed immediately downstream~~ the outlet of the first delignification zone so that the first pump, the first mixer, the first delignification zone and the second mixer are connected in series;

a steam supply in fluid communication with and attached to the second mixer;

a second pump having an inlet and an outlet defined therein, the inlet of the second pump being in fluid communication with ~~and disposed immediately downstream~~ the outlet of the second mixer;

a third mixer having an inlet and an outlet defined therein, the inlet of the third mixer being in fluid communication with ~~and disposed immediately downstream~~ the outlet of the second pump, for admixing, in the third mixer, chemicals that are required for the oxygen delignification process; and

a second delignification zone arranged to receive pulp from the third mixer, the second delignification zone being ~~downstream of~~ in fluid communication with the outlet of the third mixer so that the second mixer, the second pump, the third mixer and the second delignification zone are connected in series.

11. (Original) The system for oxygen delignification according to claim 10 wherein the first and third mixers are mixers using mechanical agitation and with the pulp at least partially being fluidized in gaps defined in the mixers, and the second mixer is a static mixer without mechanical agitation.

12. (Previously amended) The system for oxygen delignification according to claim 11 wherein the system has means for adding oxygen to the first mixer and the third mixer, respectively.

13. (Original) The system for oxygen delignification according to claim 12 wherein the second mixer has means for supplying steam in a controllable manner that is feedback-

controlled depending upon a temperature of the pulp after the second mixer.

14. (Original) The system for oxygen delignification according to claim 13 wherein the second mixer has a pulp-conveying pipe having a number of inlet holes defined therein for receiving steam.

15. (Original) The system for oxygen delignification according to claim 14 wherein the steam consists of a medium-pressure steam at a pressure of 8-14 bar.

16. (Previously amended) The system for oxygen delignification according to claim 10 wherein the system comprises a control system for controlling a rotational speed of the second pump depending upon a pressure in the first delignification zone.

17. (Original) The system for oxygen delignification according to claim 10 wherein the first delignification zone has a volume that results in a dwell time of 2-20 minutes for the pulp in the first delignification zone, the pressure in the first delignification zone is at a pressure of 0-6 bar, the second pump has a pumping effect such that a pressure in the second delignification zone reaches a level of at least 3 bars over-pressure at a top of the second delignification zone, the second delignification zone has a volume that is at least 10 times greater than the volume of the first delignification zone and the volume of the second delignification zone results in a dwell time of at least 20-200 minutes.

18. (Original) The system for oxygen delignification according to claim 17 wherein the dwell time of the first delignification zone is 2-10 minutes.

19. (Original) The system for oxygen delignification according to claim 17 wherein the dwell time of the first delignification zone is 3-6 minutes.

20. (Original) The system for oxygen delignification according to claim 17 wherein the pressure in the first delignification zone is 0-4 bar.

21. (Original) The system for oxygen delignification according to claim 17 wherein the dwell time of the second delignification zone is 20-100 minutes.

22. (Original) The system for oxygen delignification according to claim 17 wherein the dwell time of the second delignification zone is 50-90 minutes.

23 (Canceled)
24. (Canceled)
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